

Claims

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1. An oligomer comprising 2 or more than 2 units, wherein each unit comprises a peptidic domain capable of oligomerizing and a domain capable of binding to an acceptor, wherein the oligomerizing domain is not an antibody or a functional antibody fragment from the constant region.
 2. An oligomer according to claim 1 comprising more than 4 units.
 3. An oligomer according to claim 1 consisting of 5 units.
 4. An oligomer according to claim 1, wherein the acceptor is a antibody or a receptor.
 5. An oligomer according to claim 1, wherein each of said units has less than 600 amino acids.
 6. An oligomer according to claim 1, wherein the peptidic domain capable of oligomerizing and the domain capable of binding to an acceptor are connected via a spacer (hinge region).
 7. An oligomer according to claim 6, wherein the spacer comprises a proline-rich region.
 8. An oligomer according to claim 1, wherein at the C-terminus of some or all units a further functional domain is attached.
 9. An oligomer according to claim 1, wherein the individual units oligomerize spontaneously.
 10. Use of the pentamerization domain of the Cartilage Oligomeric Matrix Protein for the pentamerization of low molecular weight compounds or peptides that are not part of the Cartilage Oligomeric Matrix Protein.
 11. An oligomer according to claim 1, wherein the oligomerizing domain is the pentamerization domain of the Cartilage Oligomeric Matrix Protein.
 12. An oligomer according to claim 1 comprising units that bind to distinct acceptors.
 13. A unit capable of oligomerizing according to claim 1.
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14. Use of an oligomer according to claim 1 for identification and/or marking of acceptors.
15. Use of an oligomer according to claim 1 for eukaryotic cell, bacteria or viruses targeting.
16. Use of an oligomer according to claim 1 for cell targeting.
17. Use according to claim 16 for targeting of B-cell lymphomas.
18. Use of an oligomer according to claim 1 for the inhibition of protein-protein interactions.
19. Use of an oligomer according to claim 12 as a chelating agent.
20. Use of an oligomer according to claim 12 as a crosslinking agent.
21. Use of oligomers according to claim 1 for the construction of libraries.
22. Use of oligomers according to claim 1 for the induction of apoptosis.
23. Use of oligomers according to claim 1 for the intracellular inhibition of transcription factor binding, gene regulating molecules and/or enzymatic activities.
24. Use of oligomers according to claim 1 for prevention of tumor metastatization.
25. Use of oligomers according to claim 1 *in vitro* as one of the binding reagents in an enzyme immunoassay.
26. Use of oligomers according to claim 1 *in vitro* as one of the binding reagents in radioimmunoassays.
27. Method for the synthesis of a unit according to claim 13.
28. An expression vector for the synthesis of a unit according to claim 13.
29. A host, comprising an expression vector for the synthesis of a unit according to claim 13.
30. A microbiological host, comprising an expression vector for the synthesis of a unit according to claim 13.
31. A method for the production of an oligomer according to claim 1.

32. An oligomer according to claim 1, wherein the epitopes are used for vaccine development.

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